

1575-10

# 20 Years

**A NEW ERA IN CONCRETE**



**AMERICA'S FIRST HIGH EARLY STRENGTH PORTLAND CEMENT**

# 'Incor'





● **JUST TWENTY YEARS AGO**, the Moffat Tunnel was being driven six miles through the Rockies. Masses of earth and rock, sagging under the Mountain's weight—pressures up to ten tons per square foot—had to be held in check. Ordinary concrete hardened too slowly to take the crushing loads. Concrete that provided dependable high early strength was urgently needed.

Years before, anticipating the needs of construction progress, Lone Star Cement technicians began developing a true high early strength Portland cement. Thus, 'Incor' was available when needed. 'Incor' concrete held up the mountain . . . has been holding it up ever since . . . blocking off ground waters . . . giving typical 'Incor' service. Two decades . . . not a dollar for maintenance.

Mr. Glen Turner, Division Engineer of Denver & Rio Grande's Moffat Division, shown at left, making a condition survey, writes: " 'Incor' concrete placed in the Tunnel 20 years ago is in excellent condition. Despite the tremendous pressures to which these sections are subject, there is absolutely no evidence of structural failure or disintegration."



# 20 Years

## A NEW ERA IN CONCRETE

● The technique of concrete construction has been greatly advanced by reducing the length of time it takes cement to produce service strength. That is why a new era in construction began, in 1927, with the introduction of 'Incor', America's first high early strength Portland cement. One-day curing with 'Incor' accomplishes what normally required a week or longer. By changing weeks into days, 'Incor' made concrete a ready-to-use, year-around construction material.

At first, 'Incor' filled a vacuum of need on rush jobs, where speed was paramount. But time is a key factor in costs, and designers and builders quickly found that time saved with 'Incor' usually meant money saved, too. Earlier use at less cost became a practical reality.

High early strength, earlier use, reduced first cost—these are primary considerations. But so, too, are ultimate strength, long-time durability and low upkeep cost. Both sides of the coin are the first concern of an organization in which quality, and the performance which it reflects, is nothing short of a business religion.

Quality-mindedness made 'Incor' possible in the first place through years of research in the chemical structure of Portland cement . . . it has kept 'Incor' and the other Lone Star Cements constantly abreast of advancing construction demands . . . and it also explains the present publication.

For here is a cross-section of 'Incor' performance, as disclosed by a Condition Survey of projects up to twenty years old, covering a wide range of concrete work and exposure conditions. This record of initial and long-time values is doubly significant today—to Owners, Designers and Builders alike. Because the higher the cost of construction, the greater the 'Incor' saving, at the outset and through the years.



SYMBOL OF QUALITY  
EVER SINCE 1900

**'INCOR' — AMERICA'S FIRST HIGH EARLY STRENGTH PORTLAND CEMENT**





Boston Post Road, New Rochelle, N. Y., paved with 'Incor' in 1928 — heaviest traffic, no maintenance, today's condition excellent.

## The Record in Highway Service



Boston Post Road, Larchmont, N. Y., as it looks today.

● Twenty years ago extra detour mileage and lost time cost motorists huge sums. Paving with 'Incor' and opening concrete after 24 hours helped solve the problem. Roads were kept open — motorists saved time, money and inconvenience.

In 1928, 'Incor' concrete was placed on Boston Post Road at Main and Echo Avenues intersection, New Rochelle, N. Y. Traffic count, then 20,000 cars and trucks a day, is 50,000 today. A continuous stream of trucks, weighing up to 30 tons, punishes this concrete, day and night. "No maintenance . . . concrete good for years to come," reads Condition Report.

When Boston Post Road was repaved through Larchmont, N. Y., merchants insisted on the use of 'Incor' to prevent business loss. Here, too, 'Incor' concrete is in first-class condition today, after 16 years of just about the heaviest pounding any paving ever took.



● Back in 1927, to avoid delaying cement shipments, Manhattan Road intersection near the Lone Star Cement mill at Limesdale, Ind., was repaved with 'Incor', and opened to traffic in 40 hours, when a fleet of solid-tired Mack trucks carrying 2100 barrels of cement, passed over the new concrete. Today, after twenty years' hard service, this concrete is 'Incor'-sound—staunch as the day it was opened.

What about *ultimate* strength? Cores drilled in July, 1947, from this oldest 'Incor' highway, tested by Pittsburgh Testing Laboratory, show 20-year strength values as noted on photo at right.

So runs the record on the nation's principal highways—a record of time and money saved, at the outset and through the years.



**20-YEAR CORES:**  
**Tested Lb. per Sq. In.: 7800, 8150, 7790, 8000, 8200**

Manhattan Road intersection, near Limesdale, Ind., after 20 years' hard service.

Lincoln Highway, between Pittsburgh and Johnstown, Pa., concreted in 1929—condition today, excellent.







Bottleneck Highway, near Harrisburg, Pa., concreted with 'Incor' in 1928—condition today, first-class.

● In sub-freezing weather, winter of 1928, Pennsylvania widened Bottleneck Highway, on the Susquehanna River's west bank, near Harrisburg. Only highway into that City from the west, a detour was impossible. 'Incor' concrete was opened in 24 hours, maintaining half-way traffic through the job. Traffic up to 50,000 cars and trucks a day, in just about every kind of weather—concrete in excellent condition.

Blue Mound Road, main Milwaukee artery, carries heavy traffic. Glenview Road intersection, paved with 'Incor' in 1928, has required no maintenance—"Excellent testimonial for 'Incor'," says a Highway Official.

Blue Mound Road intersection, near Milwaukee.





● Structures as well as paving, the record is the same. Relocating Lincoln Highway east of Pittsburgh required 600,000 cu. yd. of fill, 120 ft. high, in a narrow valley. 'Incor' enabled the contractor to start the fill two days after concreting began, advancing completion by two months. That was in 1930—photo shows this project in excellent condition today.

From New England to Texas, everywhere east of the Rockies, the record in highway service runs true to form—important economies at the outset, equally significant economies through dependable long-time service—a pattern repeated again and again in all types of work.



Highway tunnel, east of Pittsburgh, concreted with 'Incor' in 1930.

U.S. No. 1, between Philadelphia and Lansdowne, Pa., repaved with 'Incor' in 1930—no maintenance, good for years to come.

'Incor' paving at critical points on U.S. No. 87, Potter County, Texas—placed in 1932, still going strong today.







Main Street, Waltham, Mass.—'Incor' paving, placed in 1928, as it looks today.

## 20 Years on Main Street, U.S.A.

Main Street, Milford, Mass., paved with 'Incor' in 1929.



● Close a street for repaving and profits are lost that merchants never regain. That is why 'Incor' has become the standard in repaving America's Main Streets—'Incor' concrete, placed today, carries customer traffic tomorrow.

Massachusetts first used 'Incor' in 1928, to repave sections of Main Street, Waltham—no business tie-up. Traffic has doubled—14,000 cars, 2,400 trucks a day, at latest count. "Condition excellent in every way . . . the concrete has taken on the appearance of fine terrazzo," reads 1947 Condition Survey.

In many a city, 'Incor' is giving excellent service. Main Street, Milford, Mass., was repaved in 1929—heavy traffic, constant abrasive action from starting and stopping—"pavement in fine shape."



● To tie up Canal Street, New Orleans, at Mardi Gras time would be like barricading New York's Broadway on New Year's Eve. In December, 1929, New Orleans repaved Canal Street from Claiborne Street to the River — 18 blocks of paving, with 21-ft. sidewalks. Merchants demanded quick action. Ordinary Portland cement meant several months of demoralized business, with traffic re-routed —and Mardi Gras only a few weeks away.

'Incor' was used throughout. Paved a section at a time, opened the next day, concrete work went forward rapidly. Each block was finished 11 days sooner. 'Incor' was ready for Mardi Gras. Merchants stated 'Incor' saved them at least \$200,000 net profit on sales that would otherwise have been lost.

After nearly 20 years, taxpayers share merchants' satisfaction, for the concrete is in excellent condition—no maintenance!



Canal Street, New Orleans—paved with 'Incor' in 1929



Traffic is heavy on U.S. No. 40 in Kansas City, Kansas. Paved with 'Incor' in 1928, concrete is sound as the day it was placed, over 19 years ago.





Ossining, N. Y. Station Plaza paving as it looks today, after over 19 years' hard service.

● Night temperatures were low, back in October, 1928, when New York Central Railroad's station plaza at Ossining, N. Y., was repaved with 'Incor'. Paving was laid in 70 sections, each section opened to traffic in 24 hours. A huge electric transformer was trucked over 36-hour-old 'Incor' slabs, without damage to the freshly-placed concrete. The entire job was completed in 10 days—30 days sooner than possible with ordinary concrete.

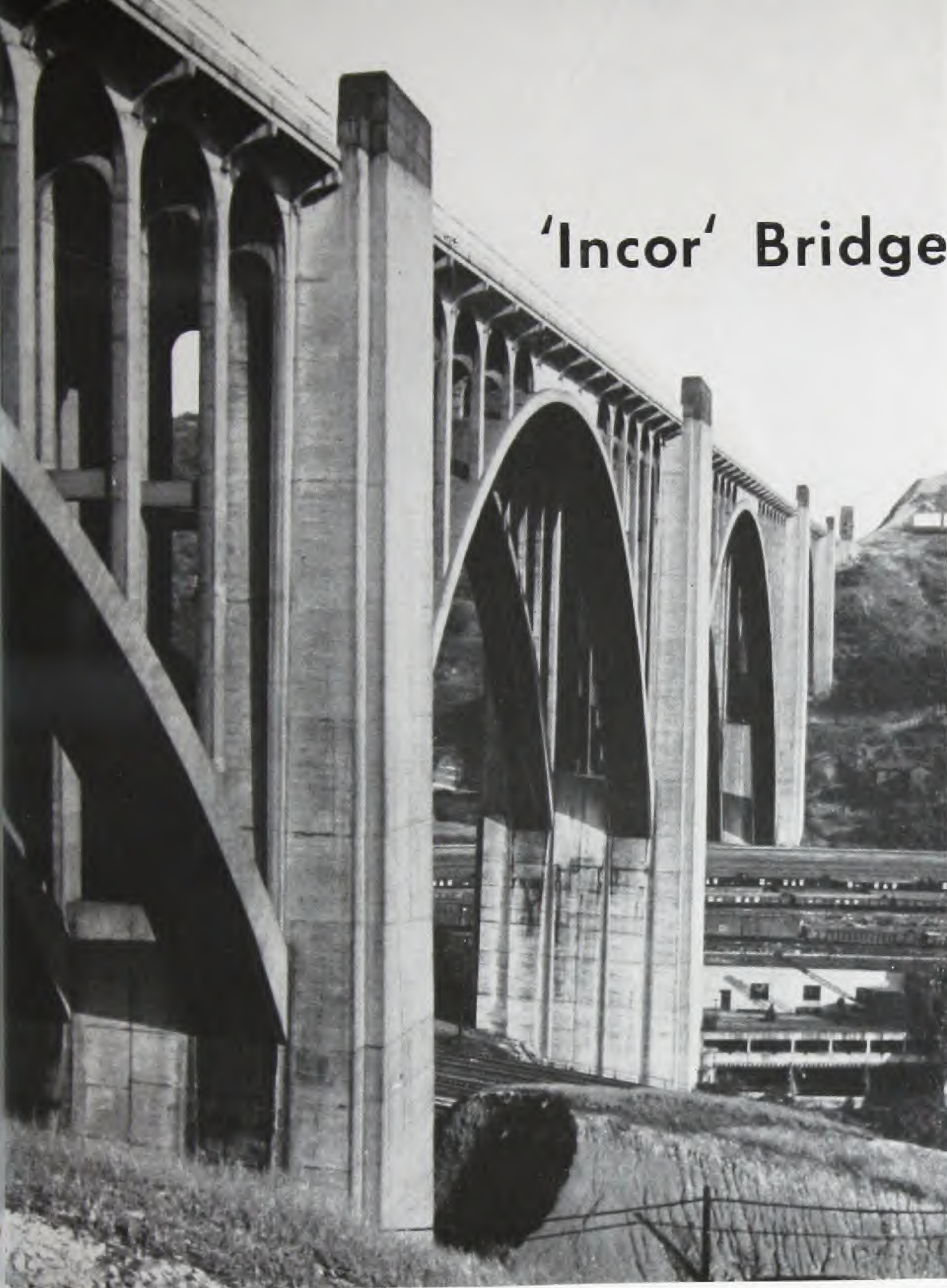
In spite of heavy traffic, the 'Incor' concrete is as good as on opening day. And that, in a nutshell, is the service record of 'Incor', under pitiless wear and gruelling exposure, in highway service the country over.



Main Street, Kilgore, Texas, paved with 'Incor' in 1931—good as new today.



## 'Incor' Bridges Many a Gap



George Westinghouse Bridge, Pittsburgh, Pa.

● Twenty years' experience shows that somewhere in every bridge-construction project, 'Incor' saves time and money. George Westinghouse Bridge, 5-span concrete structure, carries the Lincoln Highway 1500 ft. across Turtle Creek Valley, near Pittsburgh, Pa.; the 460-ft. center span is one of America's longest concrete arches. Used in key sections of all arch ribs, 'Incor' gained sufficient strength in 12 hours to withstand stresses due to effects of temperature on steel false-work.

'Incor' saved 10 days on each of 10 arch ribs, 100 days in all. \$700 of the contractor's daily fixed payroll was non-productive while arch-rib concrete cured. So 'Incor' saved \$70,000 when the bridge was built in 1930-31.

Recent inspection shows concrete to be in first-class condition—typical of 'Incor' performance on many of the nation's principal bridges.

● 'Incor' with light-weight aggregate was used in pre-cast sidewalk and roadway slabs for double-leaf Bascule bridge over Chicago River at Wabash Ave. in 1929. Forms were used twice a day, saving 50%; concrete slabs piled by crane 8 to 20 hours after casting; 3400-lb. compressive strength in one day.

Concrete has to be dense and watertight—moisture absorption would affect balance between leaves and counterweights. Nearly 20 years' exposure has had no effect on the span's delicate balance—Bridge Engineers say, "Maintenance-free service has saved the City real money."

Wabash Avenue Bridge, Chicago.







Jack's Run Bridge, Ohio River Boulevard, near Pittsburgh, Pa.



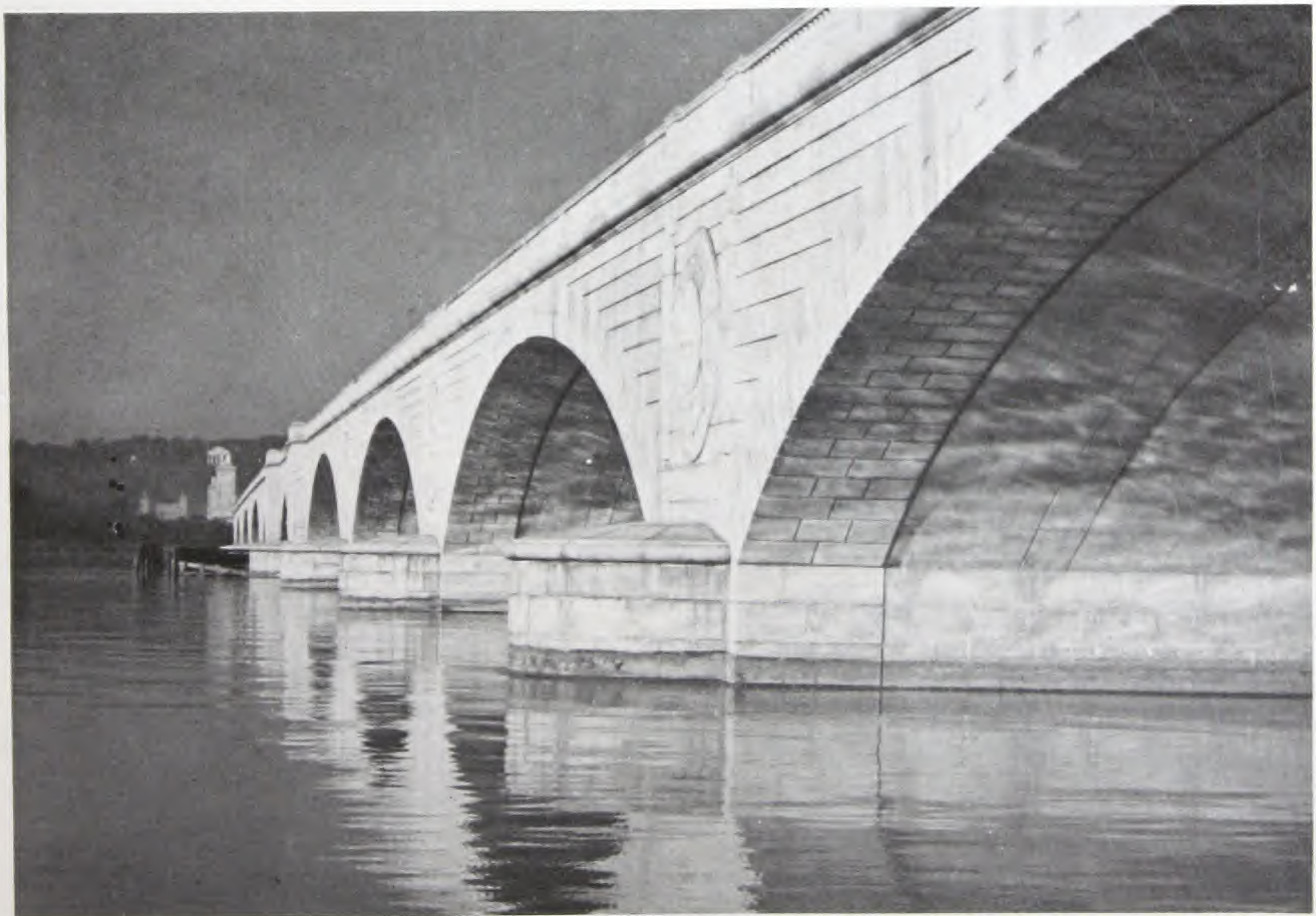
● The 3½-mile, four-lane Boulevard along Ohio River's easterly bank near Pittsburgh, required nine bridges — five of them two-ribbed, reinforced-concrete arch structures (Jack's Run span, shown above). Using 'Incor' in arch ribs, work progressed at Summer schedules in mid-Winter, 1929-30. Only 2 days' steam curing was required—5-days heat saving on each arch rib. Arch ribs self-supporting in 4 days, saved 10 days on each pour. Contractor completed job 7 months ahead of schedule. \$20 was saved for each dollar extra expended for 'Incor'. Recent inspection shows concrete in excellent condition, no maintenance.

International Gateway Bridge spans Rio Grande between Brownsville, Texas, and Matamoros, Mexico. When built, nearly 20 years ago, 'Incor' saved 20 days and gained that much toll revenue. Concrete is as sound as the day it was placed.





Brindley Creek Bridge, Cullman, Ala., built in 1928. 'Incor' saved 29 days and \$1800. "Condition first-class," reads 1947 Report.



Arlington Memorial Bridge, Washington, D. C., 'Incor' used in key sections—arches self-supporting 24 hours after last pour.





Loading dock at Indianapolis Motor Terminal as it looks today, after 20 years' service.

## Heavy-Duty Concrete in Commerce and Industry

Driveways at Central Cold Storage Warehouse, Chicago, concreted in 1929.

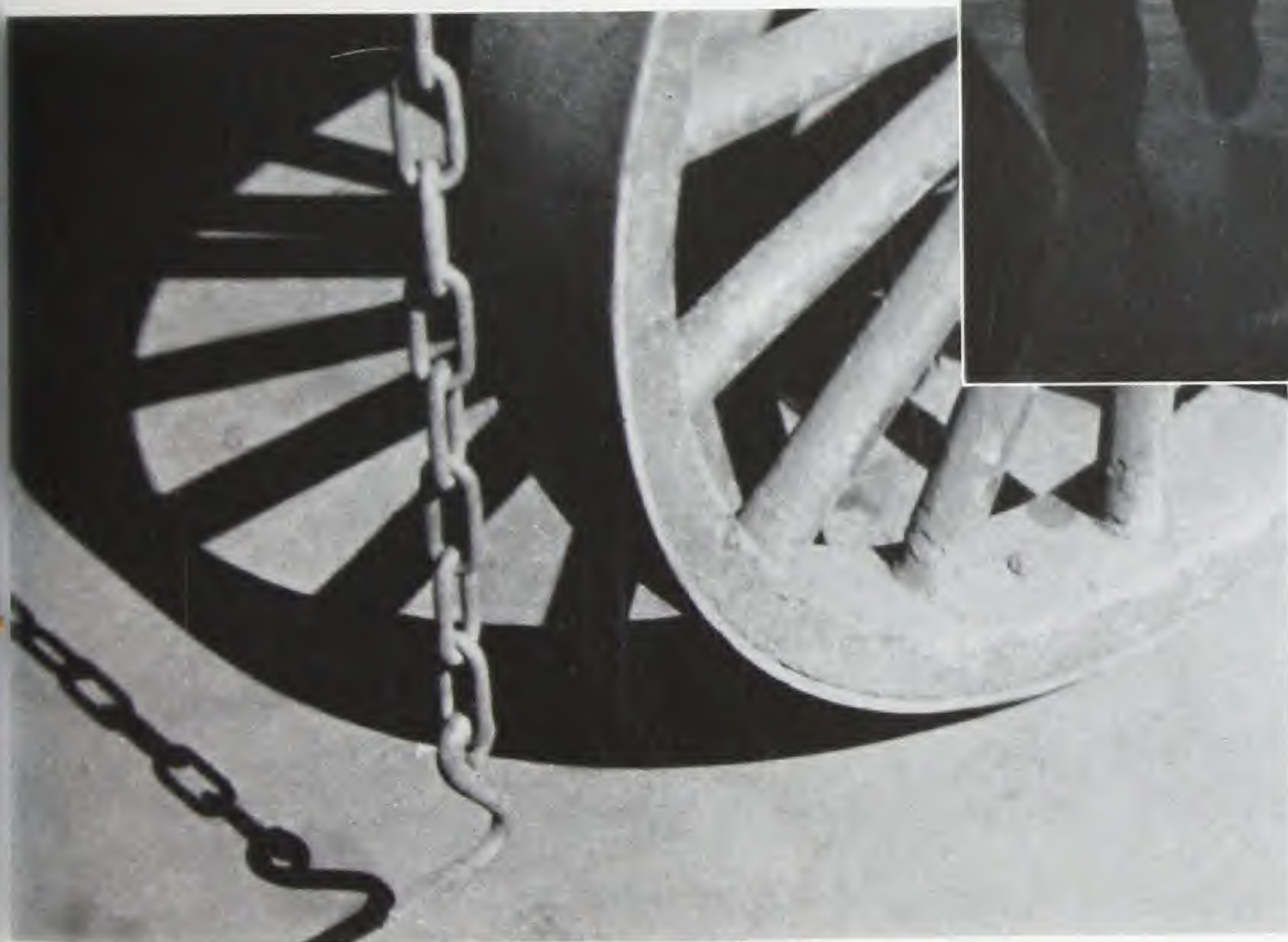


● Loading dock at Indiana Motor Freight Terminal, Indianapolis, was the first 'Incor' heavy-duty concrete installation. In July, 1927, the old dock was rebuilt over a week-end, without tying up traffic. After over 20 years' hardest service, 'Incor' concrete going as strong as ever—no maintenance, except where steel bumper plates became dislodged.

● Two hundred heavy trucks a day "back and fill" over the eight driveways at Central Cold Storage Warehouse, Clark Street, Chicago, concreted with 'Incor' in 1929. Condition Report reads: "No cracking, spalling or wear." 'Incor' has outlasted driveways at other warehouses, causing Central's superintendent to use 'Incor' in floors, too.



● Boston South Station's steel-and-glass roof was replaced in 1929 with individual umbrella-type platforms, rebuilt one at a time with 'Incor'. Concrete placed one day was in use the next—avoiding weeks of traffic disruption. Steel-tired baggage trucks grind these concrete platforms day and night, millions of passengers tread the surface — 'Incor' concrete is as good as the day it was placed, nearly twenty years ago. Real heavy-duty service!

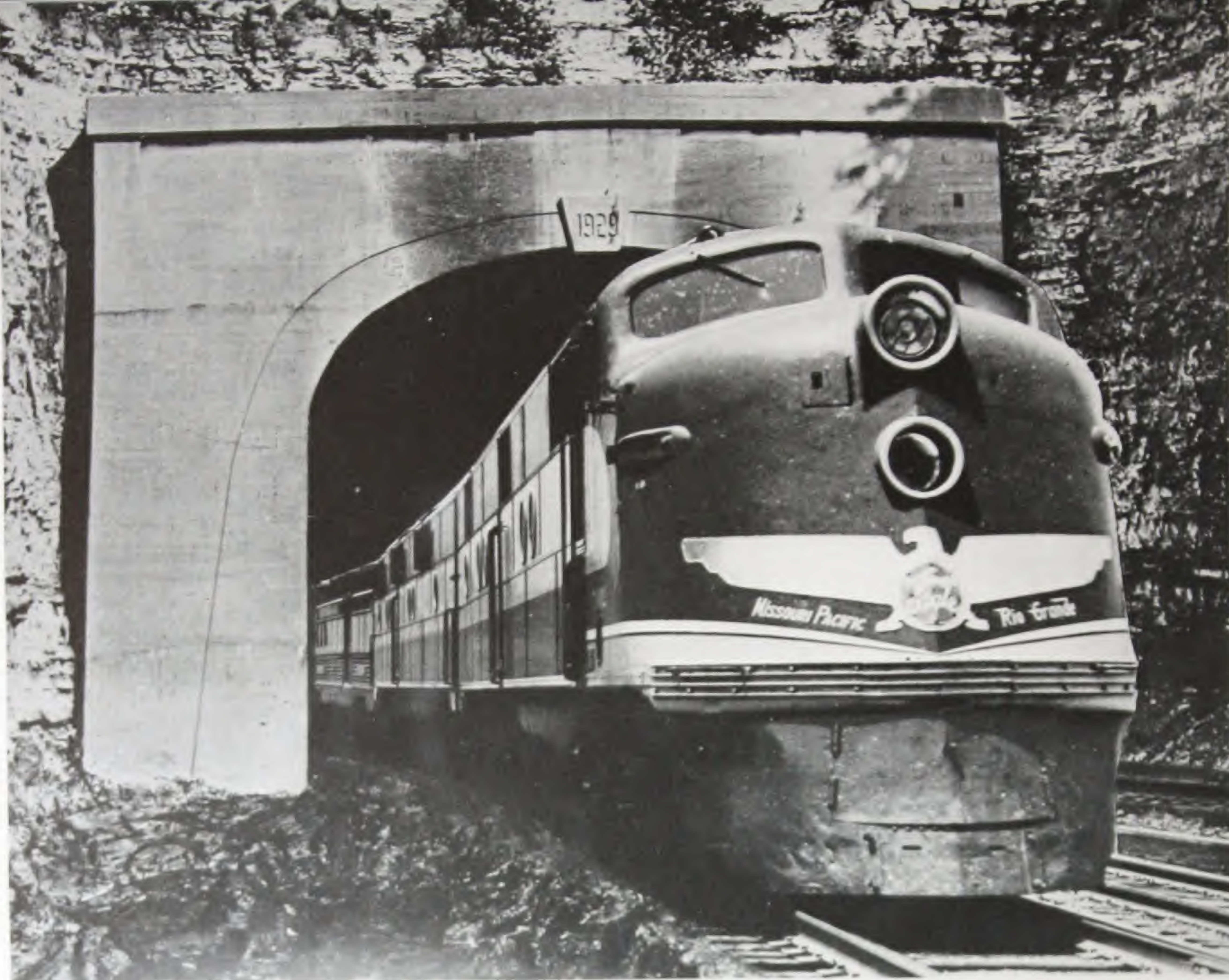


Used in 13 platforms and eight ramps at Boston's South Station, 'Incor' concrete has required practically no maintenance in nearly 20 years' service.



Heavy-duty concrete floor in A. B. & C. R.R. Freight Depot, Atlanta, surfaced with 'Incor' in 1930, is good as new today—outperforming other adjacent topping concreted at the same time.





Missouri Pacific Tunnel, Gray Summit, Mo., concreted with 'Incor' in 1929.

## In Railroad Service—Initial and Long-Range Economy



Pennsylvania Railroad Bridge, Greenup, Ill. Used in bridge-deck concrete, 'Incor' saved 3 weeks in opening relocated Pittsburgh-St. Louis main line in 1927. Eighty-mile-an-hour speeds, pounding and vibration—over 20 years' service, no maintenance.

● Missouri Pacific Tunnel at Gray Summit, Mo., built in 1929, is part of double-track cut-off between St. Louis and Jefferson City. Tunnel completion determined the date when the cut-off could be placed in service. Using 'Incor', one set of forms did the job; the single form section was moved forward 12 to 24 hours after placing concrete; lining closely followed drilling operations—weeks were saved, minimizing costly operating delays. Railroad Engineers' report says, "Concrete in excellent shape . . . no maintenance expense."



● When this Erie Railroad overpass, at Huntington, Indiana, was built in 1931, 'Incor' advanced completion by three weeks. Concrete carried heavy traffic in 24 to 36 hours, reducing slow-order movement to a minimum. This concrete is exposed to all kinds of weather—exposure conditions are severe. Railroad Engineers' 1947 report states: "Concrete as good as the day it was finished, over 16 years ago."

This is typical 'Incor' performance in railroad service and typical also of the service 'Incor' is rendering to industry generally—through initial and long-time economies, resulting from dependable high early and high ultimate strengths.



Erie Railroad overpass, Huntington, Indiana.

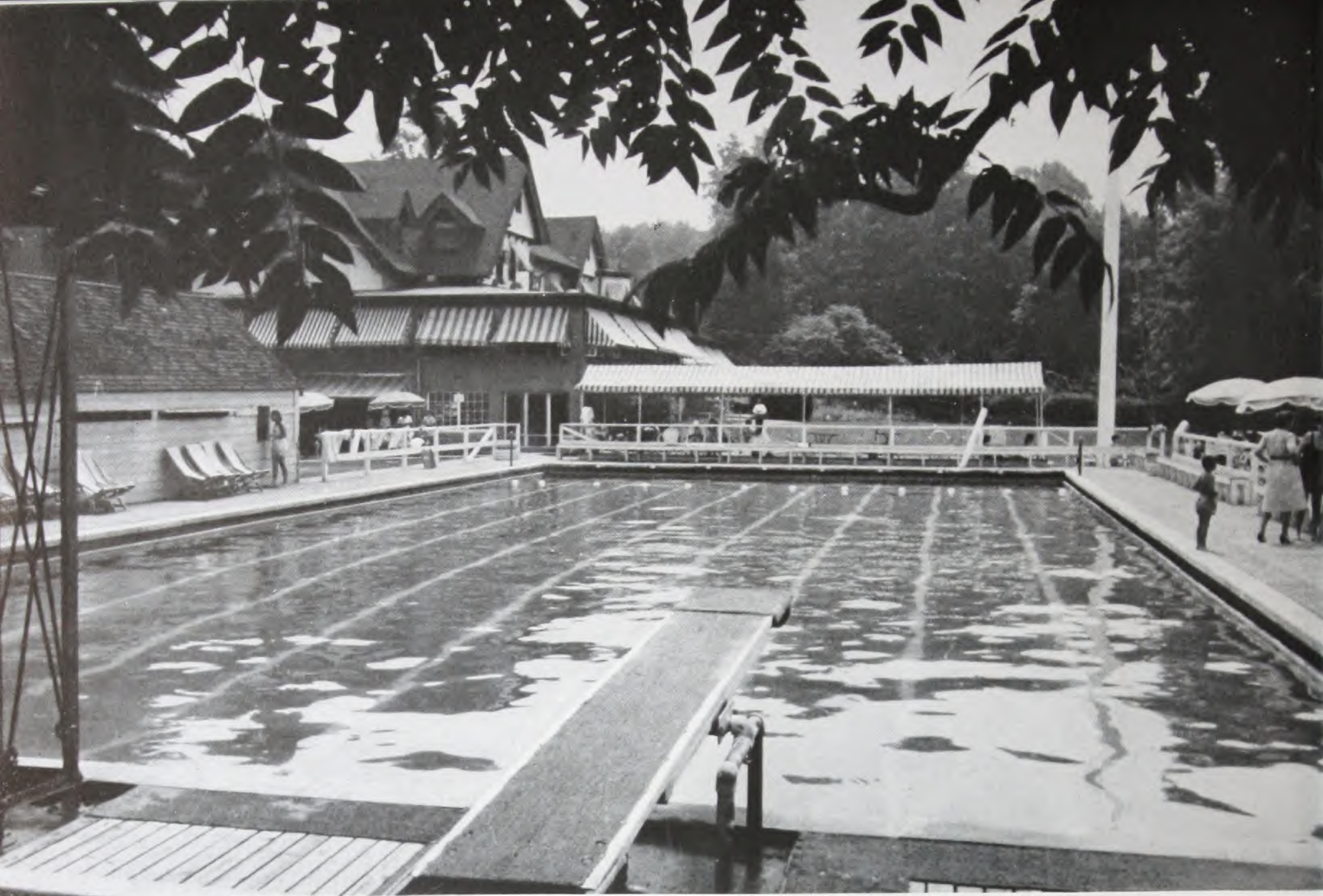


'Incor' concrete track and driveway paving for Missouri Pacific Railroad, Kansas City, Mo., placed in 1929, saved 18 days. Some of the team-track paving was removed for later flood wall construction—it was a tough job to rip out the 'Incor' concrete. After nearly 19 years' service, the remaining 'Incor' concrete "looks like it would last forever," reads Condition Report.



Main Interlocking of Jacksonville Terminal's Myrtle Avenue plant is directly over this underpass, rebuilt under service in 1930, 300 train movements daily. Tracks were removed from bridge-deck in pairs; I-beams thoroughly cleaned and encased in concrete; decks concreted with 'Incor'; slabs under traffic in 48 hours. "Not a break or haircrack visible," says 1947 Condition Report.





Stamford, Conn. Yacht Club's salt-water pool, built with 'Incor' in 1930—giving excellent service today.



## Watertight and Exposed Structures — Long-Time Dependability

● By curing thoroughly in the short time concrete can be kept wet on most jobs, 'Incor' helps assure durability and density essential in watertight and exposed structures. Concreted with 'Incor' in 1930, Stamford, Conn. Yacht Club's salt-water swimming pool is giving excellent service today.

So runs the record in watertight work. Bone-dry utilities tunnel at Smith Paper Co., Lee, Mass., adjoins flume for 250 hp. water wheel. Concreted with 'Incor' in 1931—earlier completion saved \$500—perfect watertight service, no maintenance.

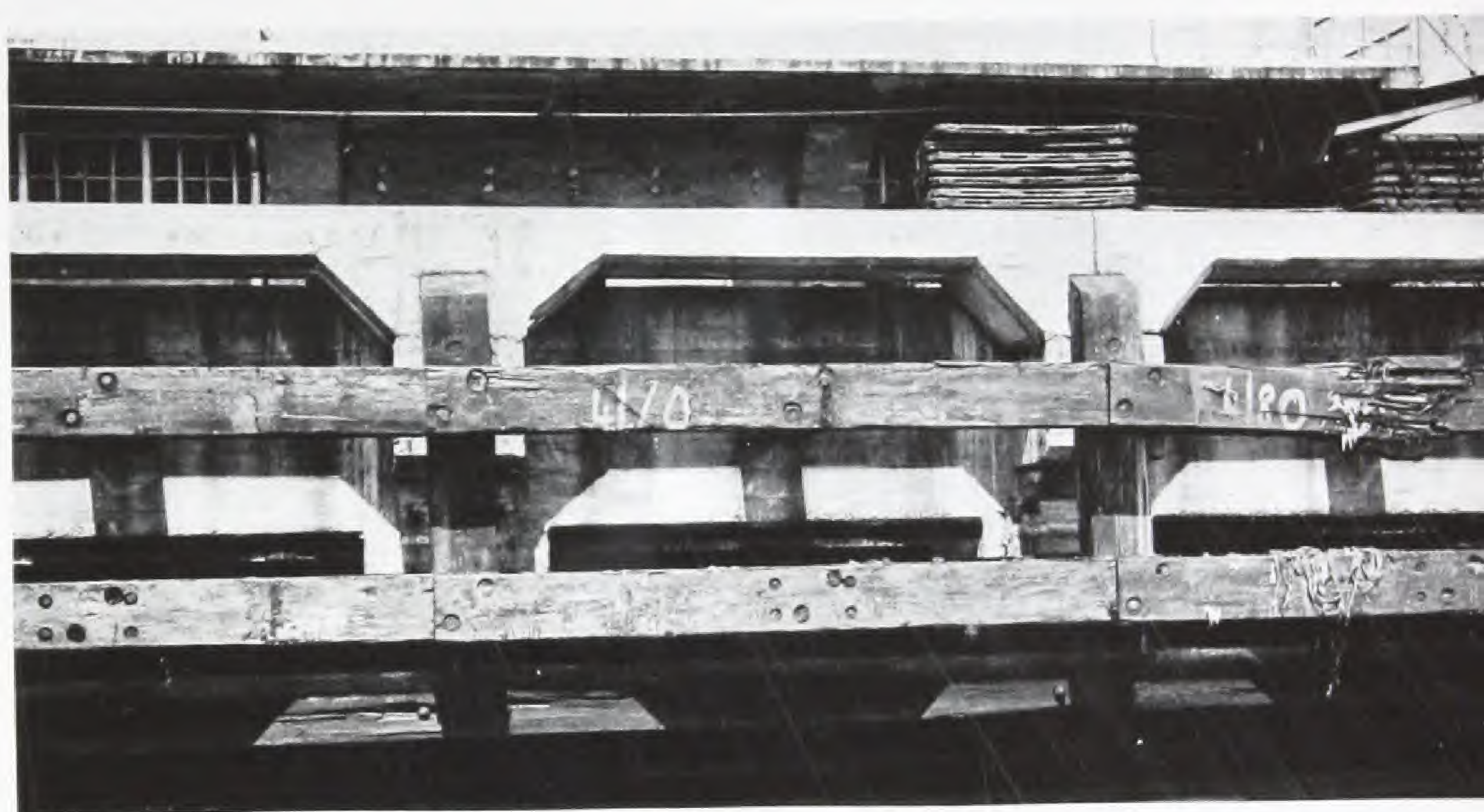
Utilities tunnel at Lee, Mass. paper mill—concreted with 'Incor' in 1931.



● In 1928, 'Incor' was used for dock piling and deck slabs in Tampa, Fla., Union Terminal. Piles, lifted 3 days after casting, were driven to refusal 24 hours later. Dock work followed immediately, with forms stripped in one-third the usual time. Job completed 21 days sooner, saving \$10,000 in overhead and rentals.

Engineers of Gulf Florida Company, Inc., present owners, report 'Incor' piling in excellent condition today—no damage from sea-water action or sea growths. Ten years ago, railroad tracks on the pier had to be raised, and part of the 'Incor' deck was torn out. Company Engineers say, "The 20-year-old 'Incor' concrete is in better condition than the newer work."

Mill Rock Reservoir, New Haven, Conn., 8-million-gal. capacity, built with 'Incor' in 1931. Exposure conditions are rugged—repeated freezing and thawing . . . 12-ft. daily rise and fall of water. Concrete is watertight . . . doing its job well . . . good for years to come.



Tampa, Fla. wharf, concreted with 'Incor' in 1928—excellent condition today.



Mill Rock Reservoir, New Haven, Conn., built with 'Incor' in 1931.





Municipal Auditorium, New Orleans, built with 'Incor' in 1929.

## In Building Construction — Earlier Use at Less Cost



City Hall, Woburn, Mass., concreted with 'Incor' in Winter, 1929.

● Forms are a principal factor in concrete costs—more so to-day than ever. The quicker forms can be re-used, the fewer forms are needed. With 'Incor', forms are filled one day, stripped the next. Only half as many forms are needed—job efficiency is improved all along the line.

Built in 1929, Municipal Auditorium in New Orleans was one of the first buildings to be concreted throughout with 'Incor' 24-Hour Cement. 'Incor' saved 60% on forms—made possible high-speed completion. Concrete is in perfect condition today—assurance against fire, wind and weather for generations to come.

In cold weather, 'Incor' produces extra savings—by reducing the time freshly-placed concrete has to be protected against freezing.





Field House, Louisiana State University, Baton Rouge—lower initial cost, lower annual cost, with 'Incor'.

● The frame is one part of a building where work can be speeded up without increasing costs—and usually at substantial savings. This principle, established by 20 years' experience, is illustrated by buildings at Louisiana State University, Baton Rouge. In the Field House, 'Incor' saved 30 days' job overhead and one formset. Concrete in perfect condition, after 17 years' service.

Lower initial cost as well as lower annual cost — these are key 'Incor' advantages.

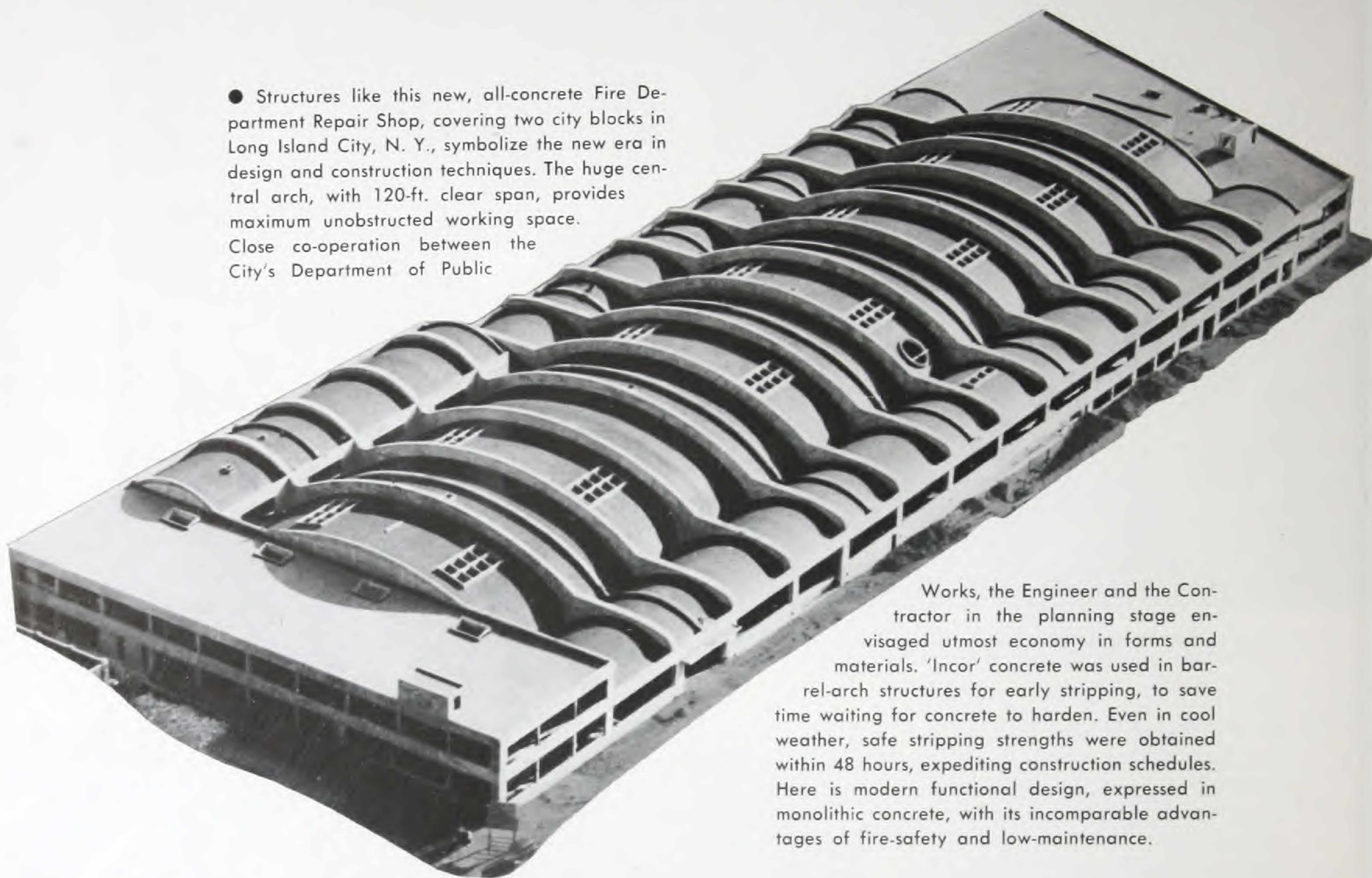


In 1928, Charleston, S. C. Museum of Natural History was underpinned to stop settlement. 'Incor' reduced timber requirements by 75%. Quicker back-fill and faster clean-up of job site reduced construction hazards. Recent inspection shows building in excellent condition.





● Structures like this new, all-concrete Fire Department Repair Shop, covering two city blocks in Long Island City, N. Y., symbolize the new era in design and construction techniques. The huge central arch, with 120-ft. clear span, provides maximum unobstructed working space. Close co-operation between the City's Department of Public



Works, the Engineer and the Contractor in the planning stage envisaged utmost economy in forms and materials. 'Incor' concrete was used in barrel-arch structures for early stripping, to save time waiting for concrete to harden. Even in cool weather, safe stripping strengths were obtained within 48 hours, expediting construction schedules. Here is modern functional design, expressed in monolithic concrete, with its incomparable advantages of fire-safety and low-maintenance.





# The 'Incor' Era Widens

● Efficient use of time is the basis of industrial progress. Practical application of this principle in line production methods is the foundation of America's tremendous productivity. Carefully planned, straight-line operation makes it possible to convert yesterday's waste and lost-motion into tomorrow's net profit.

During the past 20 years this principle has spread throughout the construction industry. One of the things which made this possible was the introduction of 'Incor' 24-Hour Cement. By assuring in 24 hours the strength and durability that formerly required a week's curing or longer, 'Incor' has enabled designers and builders to cancel out unproductive time waiting for concrete to harden and improve productive efficiency all along the line.

Each year sees some new utilization of the dependable high early strength and faster thorough job curing which are the hallmarks of 'Incor' concrete. This is the clear implication of recent projects shown on the pages next following. Each project illustrates a specific engineering or structural advantage which the know-how of designers and builders has brought to *economical* reality.

The ultimate emphasis is on that word "economical," for the salient fact is that design and construction economies obtained with 'Incor' have helped broaden the range of concrete construction—making it possible to provide the stability and fire-safety of concrete at first costs which compare favorably with less permanent construction. That is why the 'Incor' era continues to widen.



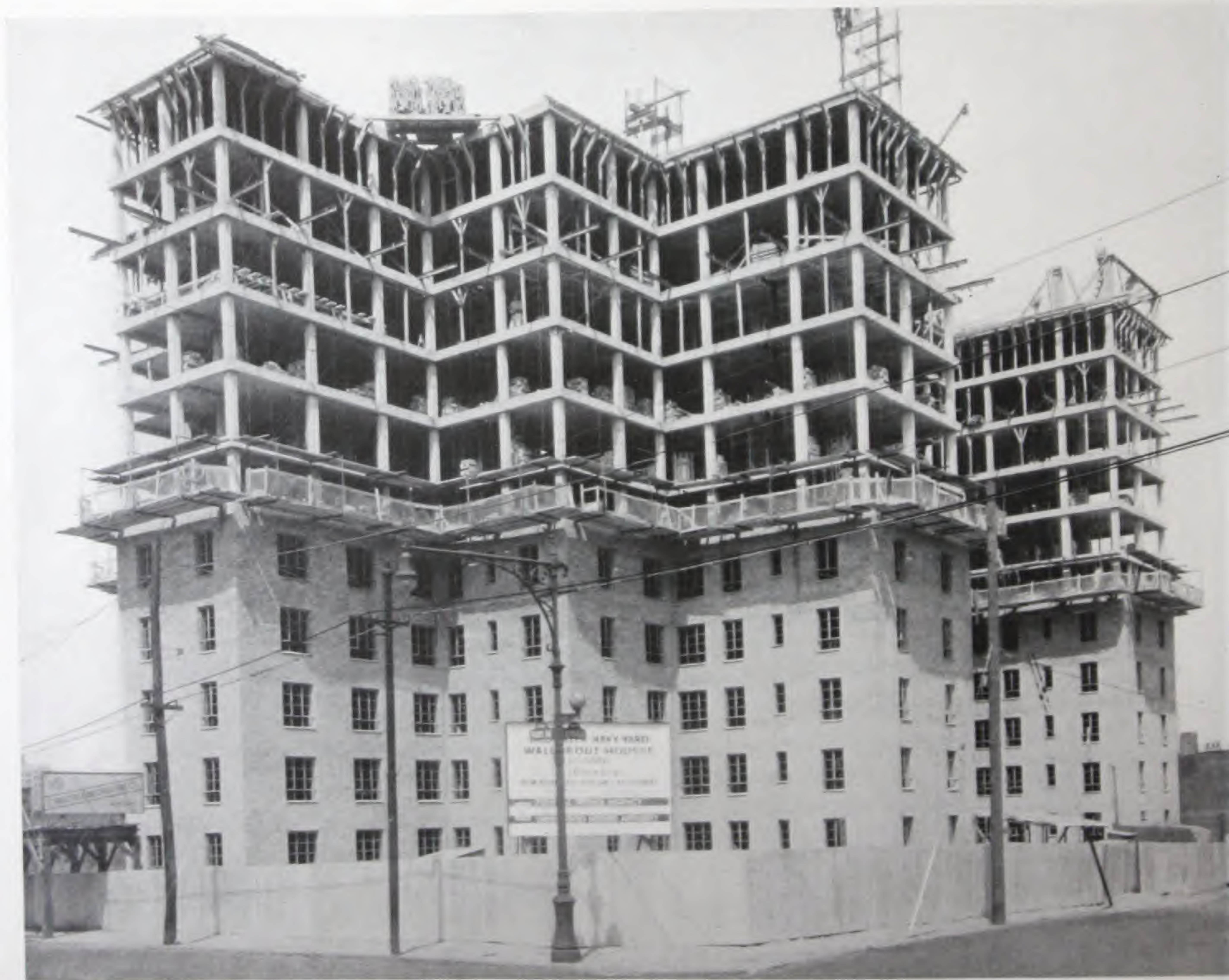
SYMBOL OF QUALITY  
EVER SINCE 1900

**'INCOR' — AMERICA'S FIRST HIGH EARLY STRENGTH PORTLAND CEMENT**



## WIDENING THE ECONOMICAL RANGE OF MODERN FIRE-SAFE CONSTRUCTION

This 13-story reinforced concrete apartment building, 11,500 sq. ft. per floor, was erected in 37 working days—two floors a week. 'Incor' concrete was poured day and night. In 18 to 24 hours, carpenters were stripping and placing forms for the next pour. Good job planning with 'Incor' resulted in a speed record for concrete frame construction. Excellent workability produced clean surfaces for exposed ceilings and floors. Time was the essence on this project—needed living space was obtained in a hurry, at low cost per cubic foot. Careful job planning, utilizing fast 'Incor' stripping schedules, widens the economical range of modern fire-safe construction.







## FACILITATING THE PLANNING AND EXECUTION OF MODERN DESIGN

Six double seaplane hangars at Cedar Point, Md. dramatize the adaptability of concrete to modern design. Sweeping 160-ft. arches, with  $3\frac{1}{2}$ -in. concrete shell, provide unobstructed space for utmost operating efficiency. Each hangar has clear door openings 160 ft. wide, 40 ft. high. Forms for projects such as this are expensive, so the Contractor's concreting schedule took full advantage of dependable 'Incor' high early strength for earlier stripping with minimum form requirements and maximum form re-use. Here is functional design, with concrete's advantages of fire-safety and low maintenance—built quicker and at lower cost.

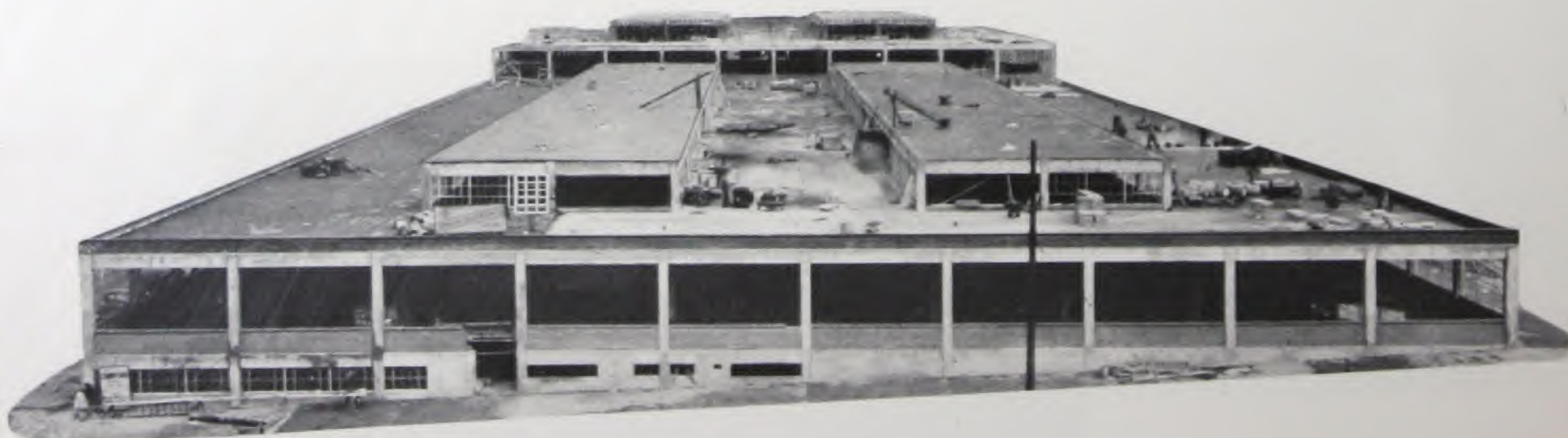






## EXPEDITING CONSTRUCTION OF INDUSTRIAL BUILDINGS 'TAILOR-MADE' TO FIT OWNER'S REQUIREMENTS

That straight-line methods are just as effective in plant construction as they are in plant operation is well illustrated by the Crawford Clothes factory, covering an entire city block in Long Island City, N. Y. This one- and two-story building is concrete beam-and-girder construction, with 20-ft. bays. Estimates showed that the fastest erection schedule was possible by using 'Incor' and forming only 15% of the area, instead of using three times as many forms for equal speed with ordinary methods. 'Incor' saved two form-sets (costing \$10,880 at 1940 prices). Using a 5.2 bag 'Incor' mix, with water added to produce a 5- to 6-inch slump, forms were stripped the second morning, and moved horizontally. Result, a fire-safe concrete building, "tailor-made" to fit the owner's requirements.







**REDUCING FORMED AREA  
BY 40% TO 60%  
WHERE SPEED IS  
ESSENTIAL**

Concrete is readily formed into any architectural design. Forms are a principal item in concreting cost. Especially on modern, large-scale construction, the investment in forms runs into substantial sums. The size of this investment is determined by the required job speed—and by the length of time it takes concrete to attain service strength. The quicker the concrete can be stripped, the faster the forms can be re-used, and hence the fewer the form-sets needed.

Forms filled with 'Incor' concrete one day are ready to re-use the next . . . one form-set with 'Incor' does the work of two or three sets with ordinary concrete . . . more re-uses lowers the cost per job. On this huge, all-'Incor', girder-and-slab structure, the Contractor formed only a fraction of the total area using each form-set ten times. Forms filled with 'Incor' one day, were rolled into new position the next—an acre a day under roof!







## ADVANCING THE OPENING DATE OF VITALLY NEEDED IMPROVEMENTS

Multi-million-dollar improvements often used to stand idle for weeks, waiting for concrete to harden. With 'Incor', next day after the last concrete is placed, the entire improvement can be opened to the public. This important 'Incor' advantage is illustrated by beautiful Cross County Parkway Bridge, at Fleetwood, N. Y., vital link in Westchester County's highway system.

Using 'Incor' 24-Hour Cement, the Contractor saved thousands of dollars on forms and falsework, forming only one row of ribs and moving forms sideways. Performance on the ribs caused the Contractor to use 'Incor' for the deck, with further savings on forms and overhead. The contract carried a \$700-a-day penalty, but the job was finished 2 weeks before deadline. Roadway concrete was placed in cold weather; 'Incor' minimized freezing risk, cut cost, speeded job progress—helped give the public earlier use of a vitally needed improvement.



## BREAKING THE LOG-JAMS IN MODERN HIGHWAY CONSTRUCTION

Traffic congestion at one of the busiest spots in suburban New York was relieved by widening the Saw Mill River Parkway from four lanes to six, with center dividing strip, for a distance of 2 miles from the terminus of the Henry Hudson Parkway to Cross County Parkway.

Good job planning included the use of 'Incor' 24-Hour Cement for closing out paving, access lanes, gas-station approaches, and gaps left open for drainage work. 'Incor' concrete placed one day was ready for use the next—"Slow Down" signs came down days sooner!





At low temperatures, hardening is retarded—unprotected concrete is exposed to freezing risk. Modern heat-protection methods make it possible to maintain suitable curing temperatures until the concrete attains service strength and is safe from freezing. Of course heat protection costs money but the sooner the concrete is service-

## **MAKING YEAR-AROUND CONCRETING A PRACTICAL, ECONOMICAL REALITY**

strong, the less it costs. 'Incor' made year-around concreting a practical, economical reality, by providing dependable high early strengths with only 24 hours' heat-curing at 70°. This saves sixty percent on heating fuel and labor, makes possible summer job progress in cold weather.







Irrigation flume built with 'Incor' 24-Hour Cement.

ASSURING DURABILITY  
AND WATERTIGHTNESS  
THROUGH FASTER  
THOROUGH CURING

Good concrete — properly designed, carefully mixed and placed, *thoroughly cured*—is watertight of itself. No special "treatments" are needed! Curing is usually where the rub comes—because, for watertightness, ordinary concrete has to be kept wet 6 to 8 days, difficult if not impossible under today's job conditions. By doing the job in 24 to 48 hours, 'Incor' assures the thorough curing which is so essential wherever water or other liquids have to be kept in or out.

'Incor' assures durability and watertightness in brewery tanks.







Worn-out floors retard plant operation, boost labor costs. But factories cannot shut down for floor repairs—so 'Incor' 24-Hour Cement solves another problem. Place 'Incor' concrete today—new floor is in use tomorrow. 'Incor' avoids tying up the floor for a week or longer, and by curing thoroughly in the short time concrete can be kept wet on most jobs, 'Incor' helps assure durable, non-dusting, heavy-duty service. Photo, at left, taken Friday night, shows worn-out floor—3 men to a truck. Below, new floor, topped with 'Incor' concrete after close of business Friday and Saturday, in use early Monday morning—one man to a truck, instead of three.

## REBUILDING HEAVY-DUTY FLOORS WITHOUT PLANT TIE-UP —GREATER WEAR RESISTANCE



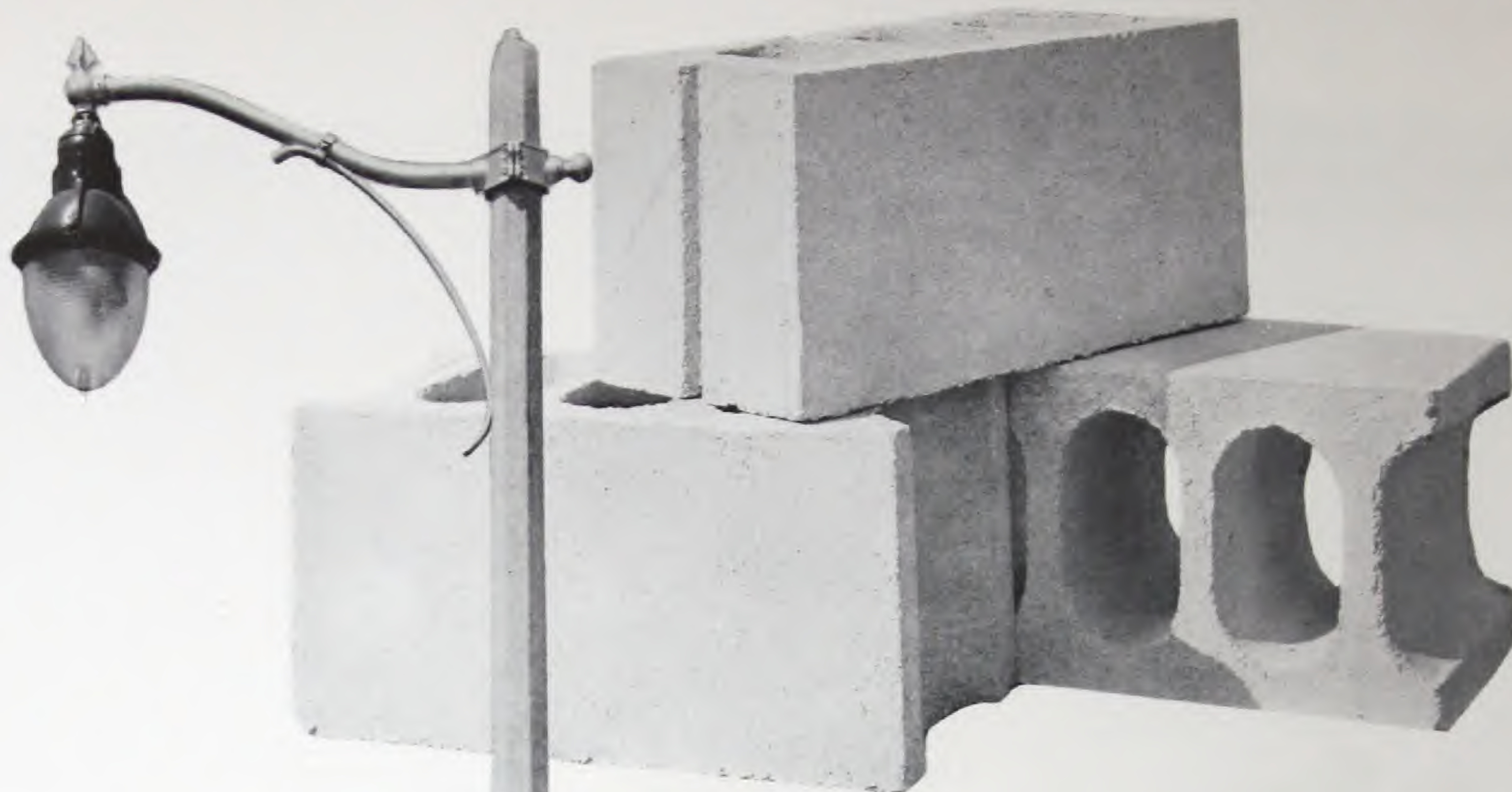




**PROVIDING UTMOST  
DURABILITY TO MEET  
DIFFICULT EXPOSURE  
CONDITIONS**

Concrete exposed to weather and wear has to have adequate durability as well as strength. Durability requires a good concrete mix, carefully placed and thoroughly cured. Greater curing efficiency of 'Incor' 24-Hour Cement does the job in 24 to 48 hours — saves five or six days, makes it easier and simpler to assure the durability needed for resistance to weather and wear. On this 600-ft.-long pier for Seatrain Lines, Inc., dependable 'Incor' high early strength helped speed cold-weather concreting, and faster thorough curing helps provide the durability needed to resist the elements.





## EXPEDITING PRECAST PRODUCT OUTPUT IN A RAPIDLY WIDENING MARKET

● Precast concrete masonry units provide attractive, fire-safe, durable construction at low initial and low annual cost. Precast concrete pipe and piling provide equally important advantages in their particular fields of use. 'Incor' quickly earned an important place in concrete products' manufacture, through increased plant efficiency—faster output and turnover, improved quality. These advantages facilitated the application of the precast principle over a steadily wider range. Hollow, lightweight floor and ceiling slabs . . . attrac-



tive lighting poles . . . pile points for large-scale construction, such as Stuyvesant Town in New York City—these are only a few of the many directions in which modern precasting is spreading. This is practical prefabrication at its economical best—line-production methods in construction.





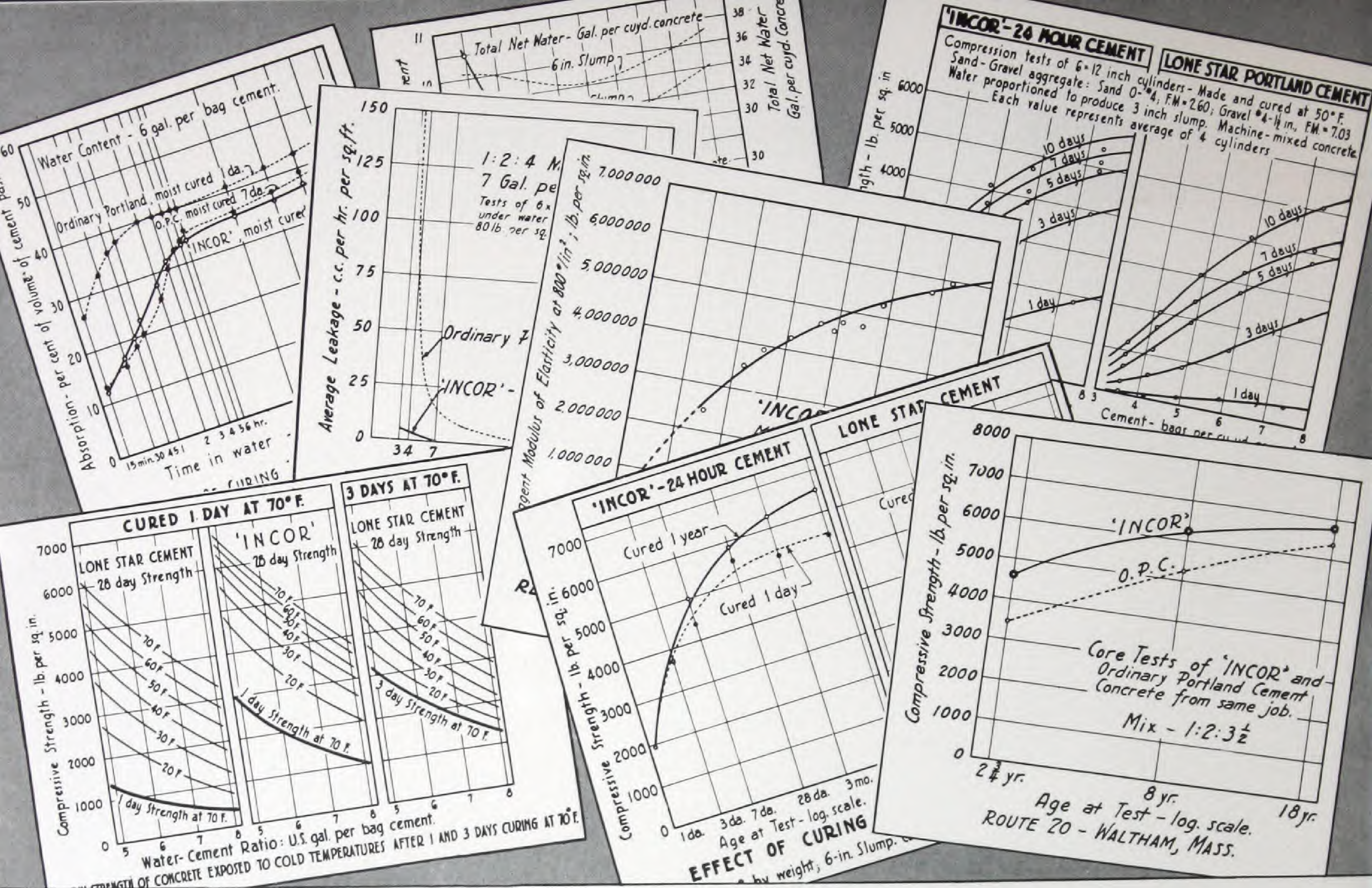
# AFFORDING DESIGNERS NEW OPPORTUNITIES THROUGH MODERN JOB-SITE PRECASTING



In 110 well-designed, garden-type apartment buildings for United Nations personnel at Jamaica, L. I., floors are reinforced concrete slabs, precast at the job in 115 'Incor' concrete molds. Ribs in floor slabs, running in two directions, share the load—the floor system averages only 2½ in. thick, including beams, slabs and girders, and uses only about half as much concrete as conventional construction. 'Incor' slabs were lifted the day after pouring, ready for lowering onto concrete foundations and walls. This method provides the stability, fire-safety and low upkeep of good concrete at minimum cost—has great possibilities for industrial as well as residence buildings.

*Modern designing skill and the imaginative use of dependable high early strength are steadily widening the horizons of the 'Incor'\* Era. \* Reg. U.S. Pat. Off.*





## For the Designer and Builder— A Body of Trustworthy Facts

To help Designers and Builders obtain fullest advantage of the properties of 'Incor' and other Lone Star Cements, the Lone Star Concrete Research Laboratories provide a steady flow of essential information covering every principal phase of concrete and its use in the field. This information is made conveniently available, in Service Books and in the form of specific data to meet engineering and concreting problems as they arise. It is practical information which adds up to a comprehensive, trustworthy body of facts at the disposal of Engineers, Architects, Contractors and Material Suppliers.





# The Ultimate Equation

● A business, like an individual, has a personality with its own well-defined characteristics. In a business these characteristics are determined by basic policies—self-imposed rules for the conduct of the business. From its inception at the turn of the century, the Lone Star Cement Corporation has operated under two cardinal principles:

- (1) *To make the best possible product;*
- (2) *To treat every customer as though both the Buyer and the Seller were members of the same organization.*

We try to square everything we do against these two key objectives. The twentieth anniversary of 'Incor' 24-Hour Cement is as good a time as any to measure accomplishment against intent.

The ultimate test of quality is performance, and on this score the record of 'Incor' and the other Lone Star Cements must speak for itself.

On the second point—which of course is simply a practical, working definition of the overworked word 'service'—the record must also speak for itself.

What we have sought to do is summed up in these concluding pages. It is for the Designer and Builder, the Dealer, Ready-Mix Operator and Products Manufacturer, the Owner and the general public, to judge how closely we have come to fulfilling these objectives.

Actions rather than words—that is the ultimate equation in earning and holding favorable public opinion.



SYMBOL OF QUALITY  
EVER SINCE 1900

**'INCOR' — AMERICA'S FIRST HIGH EARLY STRENGTH PORTLAND CEMENT**





## For the Dealer . . . A Broader Market

Two decades now clearly demonstrate that 'Incor' 24-Hour Cement has added another string to the Dealer's bow, making it possible for him to broaden the base of his cement business by offering to his customers the time-saving advantages of concrete placed one day and in use the next—of better concrete, too, because 'Incor' cures thoroughly in the short time it is possible to keep concrete wet on most jobs, small or large.

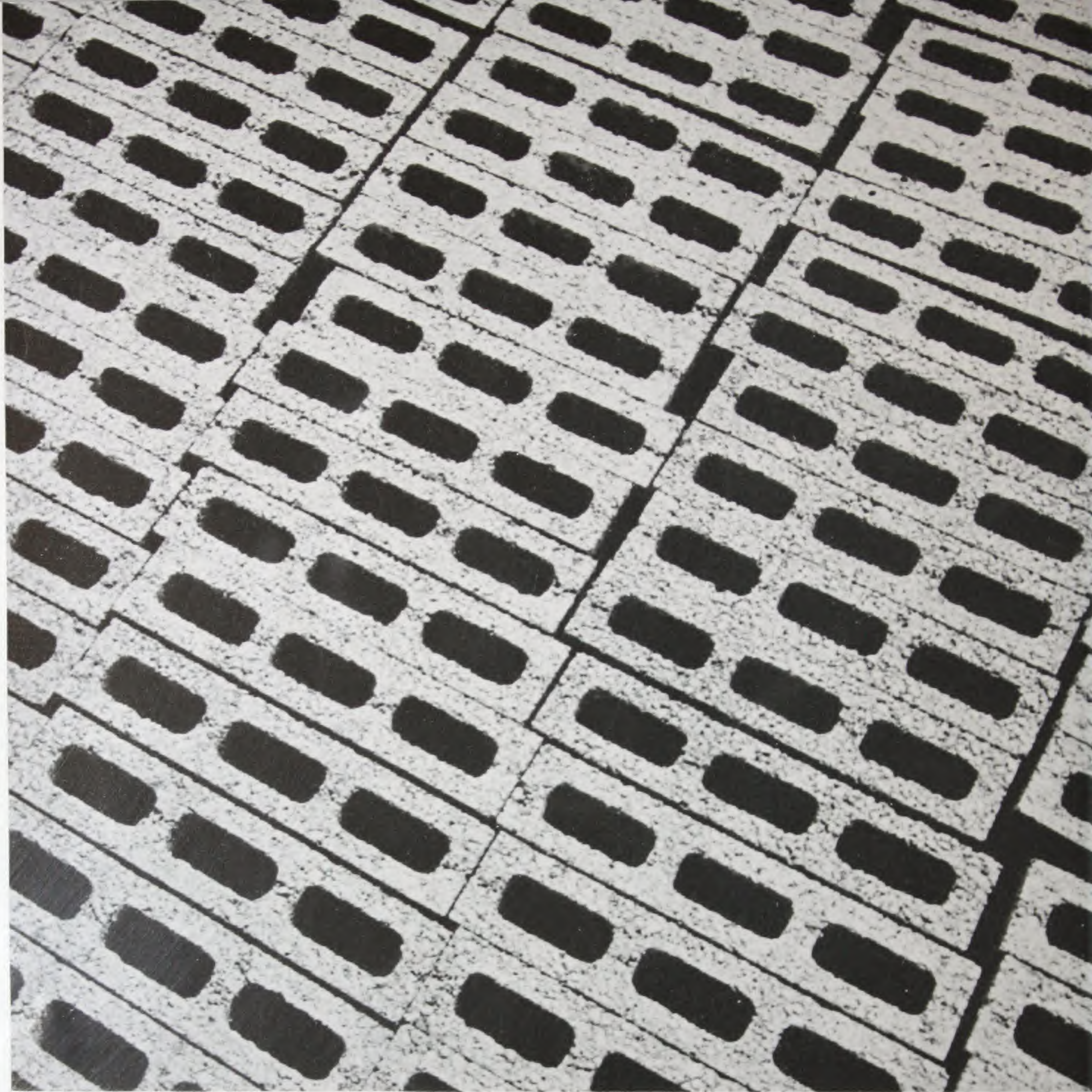


# For the Contractor... Multiple Advantages

'Incor' opened a new range of possibilities for the application of construction know-how. One set of forms with 'Incor' produces the same job speed as two or three form-sets with ordinary cement. Forms are safely stripped in 24 hours . . . no reshoring to impede bricklayers, carpenters, plumbers and electricians. Jobs can be planned more efficiently—labor costs are reduced. Fewer days on the job . . . fixed overhead charges lowered. Equipment available sooner for the next job. Winter work expedited . . . heat-protection costs reduced at least a half. Each passing year sees some further advance in the practical application of 'Incor' performance.







## For the Products Plant... A Four-Way Advantage

Two decades of experience show that 'Incor' simplifies production, cuts costs and increases profits in the Products Plant. Specifically: (1) Quick re-use cuts form requirements in half—or doubles production with existing forms or pallets; (2) Plastic 'Incor' mixes speed production; (3) 'Incor' units, thoroughly cured, are ready for handling days sooner; (4) Deliveries are maintained with half or third the usual stock-pile.



# For the Ready-Mix Operator...

## An Added Service

A Ready-Mix Plant represents a substantial investment. Profitable operation depends upon volume and turnover. Today the Ready-Mix Operator knows that when a customer asks for high-early-strength concrete, he has a definite reason in mind—job speed, form saving, winter economies, assured water-tightness. How to meet this demand? Many Operators find 'Incor' is the answer—because America's **FIRST** high early strength Portland cement, backed by 20 years' outstanding performance, has earned the confidence of cement users everywhere. Wide "acceptance" of 'Incor', as the standard of quality, is a decided advantage to the Operator.

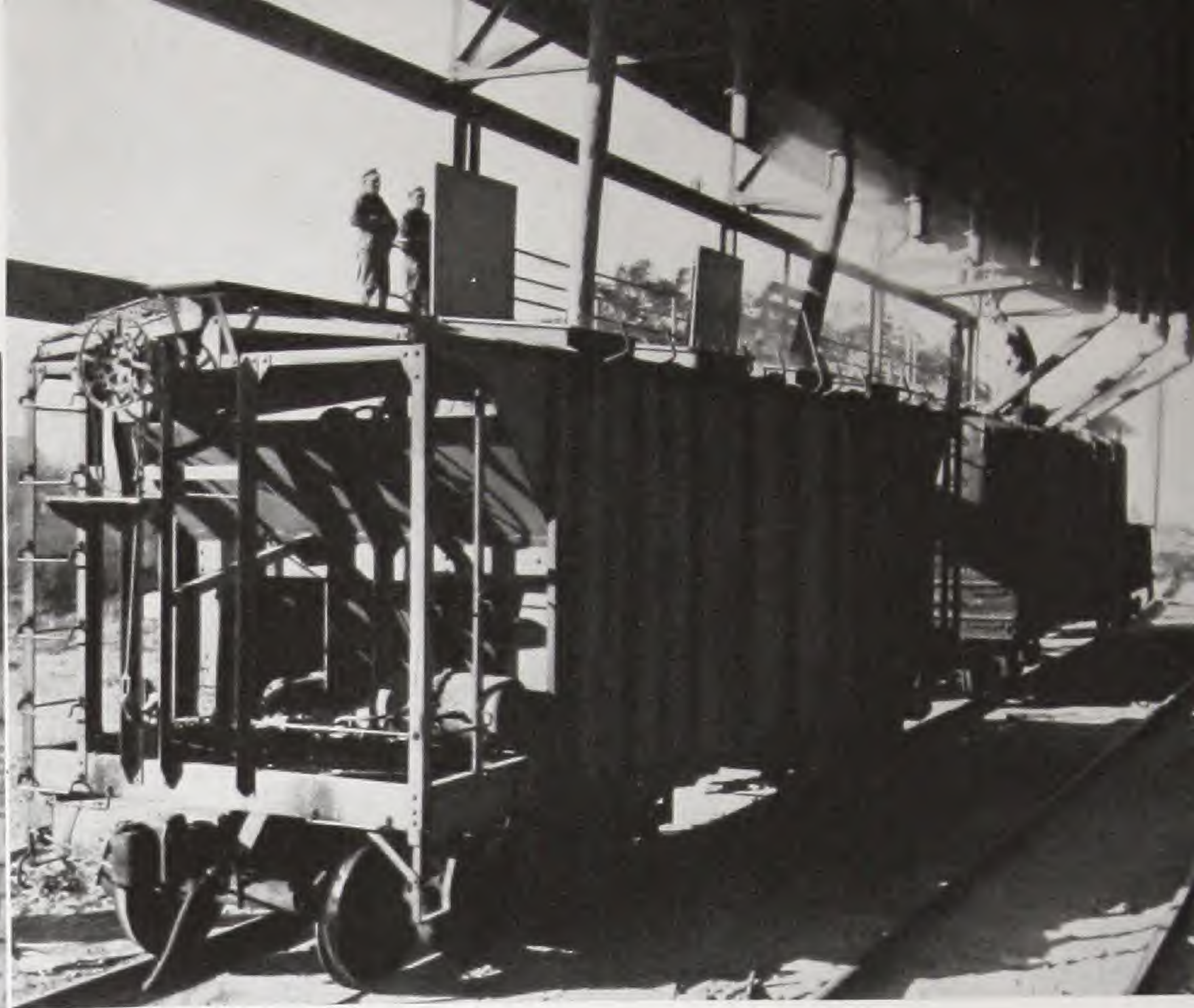




To serve the convenience of Dealer and User, bagged 'Incor' is shipped in carloads or in mixed cars with the other Lone Star Cements.



Air-activated Containers move from mill to job, by rail and water. Tidewater location of key Lone Star Mills adds further flexibility to Lone Star service.



Modern Hopper Cars expedite cement shipment to, and handling at, Ready-Mix Plants, Products Plants and large construction projects.



## For the Building Industry . . . Service to Fit Every Need

Carefully designed to fit the convenience of Dealers and Users, flexible Lone Star service receives the utmost care and attention, all along the line, every day in the year—because we realize that a reputation for dependability has to be earned by day-to-day performance.



## SELECT CEMENT TO FIT THE JOB

● Progress in building construction calls for parallel progress in cement performance. Lone Star Cements meet the needs of advancing building techniques. The record of 'Incor' 24-Hour Cement in its own wide field of usefulness expresses the predominant quality characteristics of the family of which it is a part. Rigid quality control and continuing product research assure the same high standards of performance in all the Lone Star Cements, now and in the years ahead.



LONE STAR CEMENTS COVER EVERY MODERN CONSTRUCTION NEED



LONE STAR CEMENTS  
COVER THE ENTIRE  
CONSTRUCTION FIELD



**LONE STAR CEMENT CORPORATION**

Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS.  
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